

# MARS

## EK-75

### ELECTRONIC KEYS

The EK-75 Electronic Keyer is fully automatic and self-completing generating accurate dots and dashes as well as spacing.

It includes its own power supply and a tone generator for monitoring.

Both Speed and Audio Controls are on the front panel and a sliding switch controlling the speaker.

The Weight and Dot/Dash Ratio controls are on the back panel of the instrument and are screw-driver adjusting. Once properly set, they need not be touched again regardless of speed.

### ADJUSTING INSTRUMENT:

Connect a voltmeter through the relay to any battery. Holding the Key in the "dash" position, adjust the "weight control" until the meter reads 3/4 of the battery voltage. Next, hold the Key in the "dot" position and adjust the dot/dash ratio control until the meter reads 1/2 of the battery voltage. Re-check the first adjustment. The instrument is now properly adjusted.

### PROTECTION OF RELAY CONTACTS:

When the voltage across the keying circuit exceeds 100 DC volts and/or 200 mA, a contact protection circuit composed of a capacitor-resistor combination is required, located preferably in the transmitter. See Fig. 1 for the C R connections.

The values for this combination are listed in Table 1 for various operating conditions.

FIG. 1

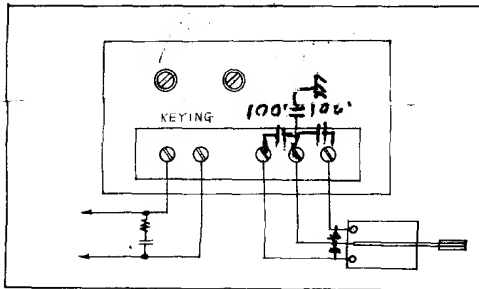


TABLE 1

|             | R              | C                | R              | C                | R              | C               |
|-------------|----------------|------------------|----------------|------------------|----------------|-----------------|
| 40V - 500mA | 47<br>— 27     | 0.01<br>— 0.02   | 70<br>— 33     | 0.01<br>— 0.02   | 70<br>— 33     | 0.01<br>— 0.02  |
| 200 - 400mA | 100<br>— 70    | 0.005<br>— 0.01  | 100<br>— 70    | 0.005<br>— 0.01  | 100<br>— 70    | 0.002<br>— 0.01 |
| 100 - 200mA | 270<br>— 100   | 0.001<br>— 0.005 | 300<br>— 100   | 0.002<br>— 0.005 | 300<br>— 100   | 0.002           |
| 50 - 100mA  | 2200<br>— 570  | 0.001            | 570<br>— 300   | 0.001<br>— 0.002 | 570<br>— 300   | 0.001           |
| 0 - 50mA    | 3700<br>— 2200 | 0.001            | 2200<br>— 1300 | 0.001            | 2200<br>— 1300 | 0.001           |
| Current     |                |                  |                |                  |                |                 |
| Volts       | 0 - 50V        |                  | 50 - 150V      |                  | 50 - 300V      |                 |

TRANSISTORS: -

Keying Circuit: 1-2N2160 (General Electric)

1-2SB77 (RCA 2N109)

1-2SD77 (RCA 2N647)

Monitor:

1-2SB75 (RCA 2N217)

1-2SB77 (RCA 2N109)

R - OHMS

C - MFD

### SCHEMATIC DIAGRAM

